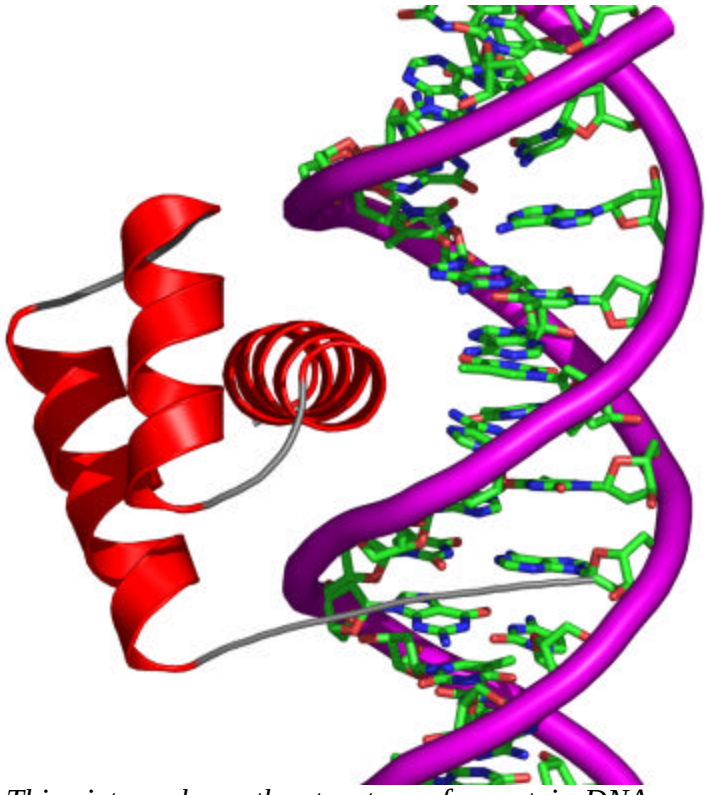
YORK UNIVERSITÉ UNIVERSITY redefine THE POSSIBLE.

Specialized Honours B.Sc. Degree Program in

Biochemistry

These are exciting times for Biochemistry! Now, 50 years after the Watson and Crick elucidation of the double helical structure of DNA, and the completion of the sequencing of the human genome, biochemistry is on the brink of another burst forward. Much has been learned about the proteins that are coded for in the genetic material but much remains to be learned about the proteome – all the proteins that catalyze and control the exquisite details of cellular metabolism, in many different types of cells in various states of development and well-being. The progress in the next 50 years will rival that of the past and you might be interested in participating! If so, we invite you to study Biochemistry at York. The program is demanding but rewarding!



This picture shows the structure of a protein-DNA complex. Protein structure research is performed by a number of Biochemistry faculty members at York.

Why at York?

- York has dedicated and experienced faculty members whose research interests are in Biochemistry and Molecular Biology.
- Students at York enjoy small classes, engaging and approachable faculty, useful tutorials, relevant laboratory experience and modern equipment in a friendly atmosphere.
- The learning atmosphere will be excellent, with plenty of opportunity to interact with our faculty, culminating with a research project course in the graduating year in which students gain valuable experience in the laboratory of a faculty member of their choice, working on an exciting research project.
- York graduates are successful. They get meaningful and well paid jobs in research, in industry and in teaching. Others go on to pursue graduate studies, here and at other prestigious universities in Canada and abroad. Many enter professional schools in medicine, dentistry, pharmacy, law and business.

Study Plan

This table shows a suggested study plan for a full-time student completing the degree in four years. **Other combinations are possible** *but the need to do some courses in the proper sequence should be noted carefully, as should the implications of such a challenging course load.*

Courses normally *also* available in the summer are denoted in the right-hand column. Check the registrar's web site for course availability each summer. No courses are only available in the summer. Summer terms are not required and are normally free, but students often choose to take some courses in summer terms to reduce their workload in the Fall and Winter terms, or to avoid scheduling conflicts.

Year	*Course Designation*	*Title*	*term*	*summer*
1	BIOL 1010 6.0	Biological Science	Y	✓
	PHYS 1410 6.0 or 1010 6.0	Physical Science	Y	✓
	CHEM 1000 3.0	Chemical Structure	F	✓
	MATH 1013 3.0	Applied Calculus I	F	✓
	CHEM 1001 3.0	Chemical Dynamics	W	✓
	MATH 1014 3.0	Applied Calculus II	W	✓
	COSC 1520 3.0 or 1530 3.0 or 1540 3.0	Computer Science	any	✓
	3 other credits*	*elective*	any	✓
2	CHEM 2020 6.0	Organic Chemistry	Y	✓
	BCHM 2020 4.0	Cell Biol & Biochem I	F	✓
	CHEM 2011 3.0	Intro. Thermodynamics	F	
	CHEM 2030 3.0 †	Inorganic Chemistry	W	
	BCHM 2021 4.0	Cell Biol & Biochem II	W	✓
	BIOL 2040 4.0	Genetics	W	✓
	6 other credits* †	*elective*	any	✓
3	BCHM 3010 3.0	Advanced Biochemistry	F	
	BCHM 3110 3.0	Nucleic Acid Metabolism	F	
	CHEM 3020 4.0	Organic Chemistry II	F	
	BCHM 3140 4.0	Adv. Biochem. & Mol. Gen. Lab.	F or W	✓
	BCHM 3051 3.0	Macromol. of Biochem. Interest	W	
	BCHM 3130 3.0	Regulation of Gene Expression	W	
	10 other credits* †	*elective*	any	✓
4	BCHM 4000 8.0	Honours Thesis	Y	✓
	BCHM 4050 3.0§	Bioanalytical Chemistry	W	
	BCHM 4290 4.0	Biotechnology	F	✓
	15 other credits* †	*elective*	any	✓

* Elective credits are credits in unspecified courses needed to meet Faculty and University requirements. The 120-credit program includes 34 † elective credits, of which a minimum of 12 must be in General Education courses; and a minimum of 9 must be in 3000- or 4000-level BCHM, BIOL or CHEM courses not already required by the program. This leaves up to 13 † credits to be made up of courses in any subject. The elective credits need not be taken in the groups of 3, 6, 10 and 15 suggested in this study plan. Those numbers were chosen so as to afford exactly 30 credits in each year. Other combinations are possible, but a normal course load would have about 30 credits per year.

† If you have taken SC/CHEM 2030 4.0 before Fall 2006, instead of SC/CHEM 2030 3.0, you will need one less elective credit in a 120-credit degree.

§ Students needing SC/BCHM 4050 3.0 in 2006-2007 can substitute SC/CHEM 4093 3.0 'Biomaterials' in its place. Otherwise, SC/BCHM 4050 3.0 will again be available in 2007-2008.

For further information on this program, see the Biochemistry web site at *www.biochem.yorku.ca*. For help in designing your own study plan, use the on-line Course Sequencer tool. To monitor your academic progress in this program, use the Progress Monitor tool. Access both tools by clicking “Advising” on the Biochemistry web site.